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(54) MANUFACTURE OF MAGNETORESISTANCE EFFECT THIN-FILM MAGNETIC HEAD

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a manufacturing method of a magnetoresistance effect thin-film magnetic head which can enhance the intensity of the exchange coupling magnetic field of an SV-GMR (spin valve-type magnetoresistance effect) element, the magnetoresistance change rate of the element and the heat-resistant stability of the element, can be formed by a simple process.

SOLUTION: In this manufacturing method for a magnetoresistance effect thin-film magnetic head provided with an SV-GMR element 4, a process in which a plasma treatment layer 45 is formed between a fixation layer 44 and an antiferromagnetic layer 46 for the SV-GMR element 4 is provided. The plasma treatment layer 45 can be formed in such a way that the surface of the fixation layer 44, the film-formation initial layer of the antiferromagnetic layer 46 or several atomic layers of both are exposed to an argon ion plasma. The plasma treatment layer 45 has a crystal lattice constant in the intermediate between that of the fixation layer 44 and that of the antiferromagnetic layer 46, it matches the crystal lattice of both and it ensures the crystallinity of both.